

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P198356

Luminaire Tested: **TT-C2-LED-E1-WQ-SG-LWR-LW-UPL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P198356
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (P27139) AND DOWNLIGHT
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: TT-C2-LED-E1-WQ-SG-LWR-LW-UPL
Description: TOPTIER LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
WIDE DISTRIBUTION WITH SOFTENING GLASS LENS AND LumaWatt WIRELESS SENSOR
Light Source: (168) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4681 lumens
Efficiency: N/A
Efficacy: 91.1 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.12' x H: 0.1')
IES Classification: Type V - Short - Non-Cutoff
BUG Rating: B2 - U4 - G1

Input Watts (W): 51.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

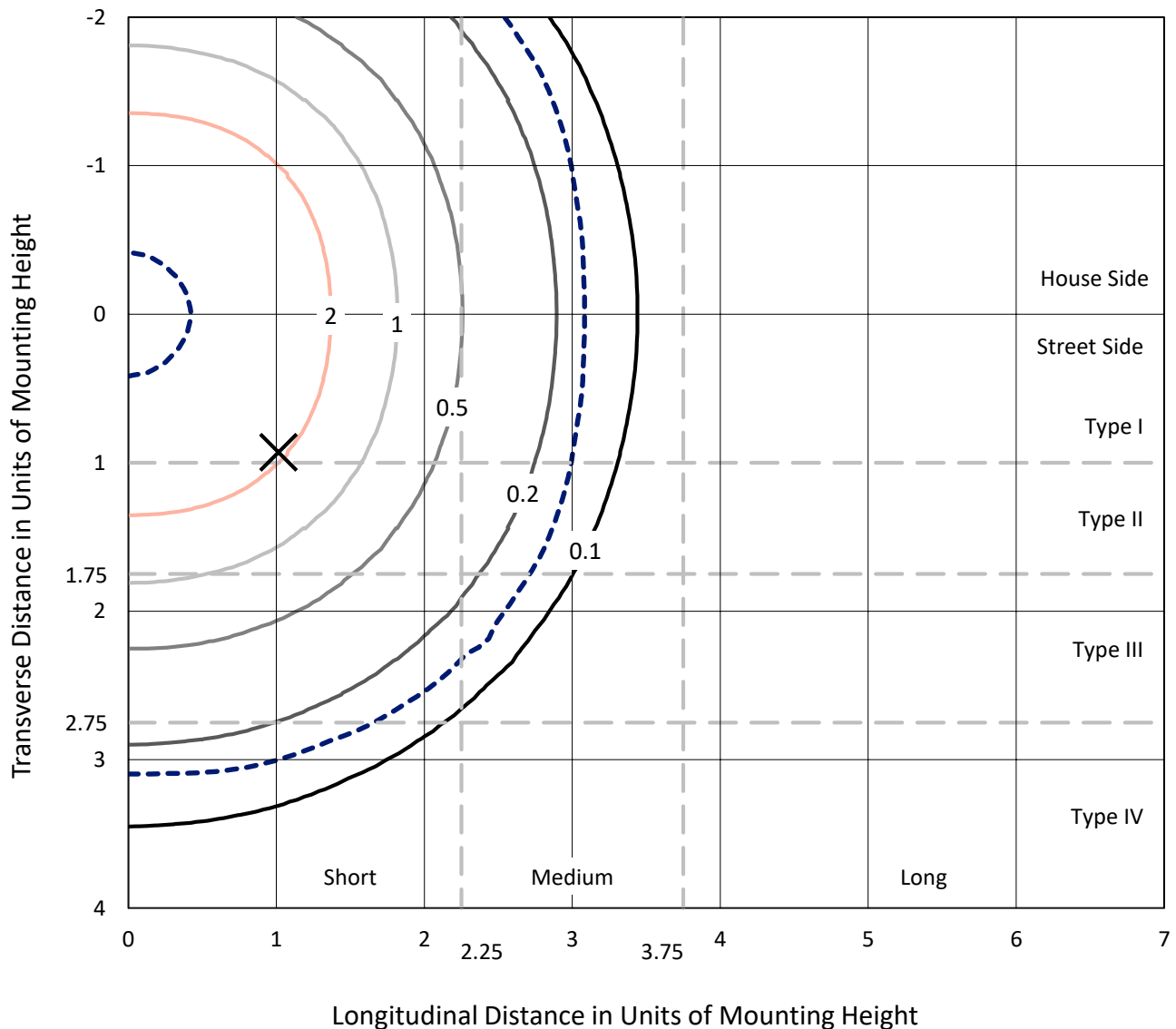


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 --- 1/2 Max cd

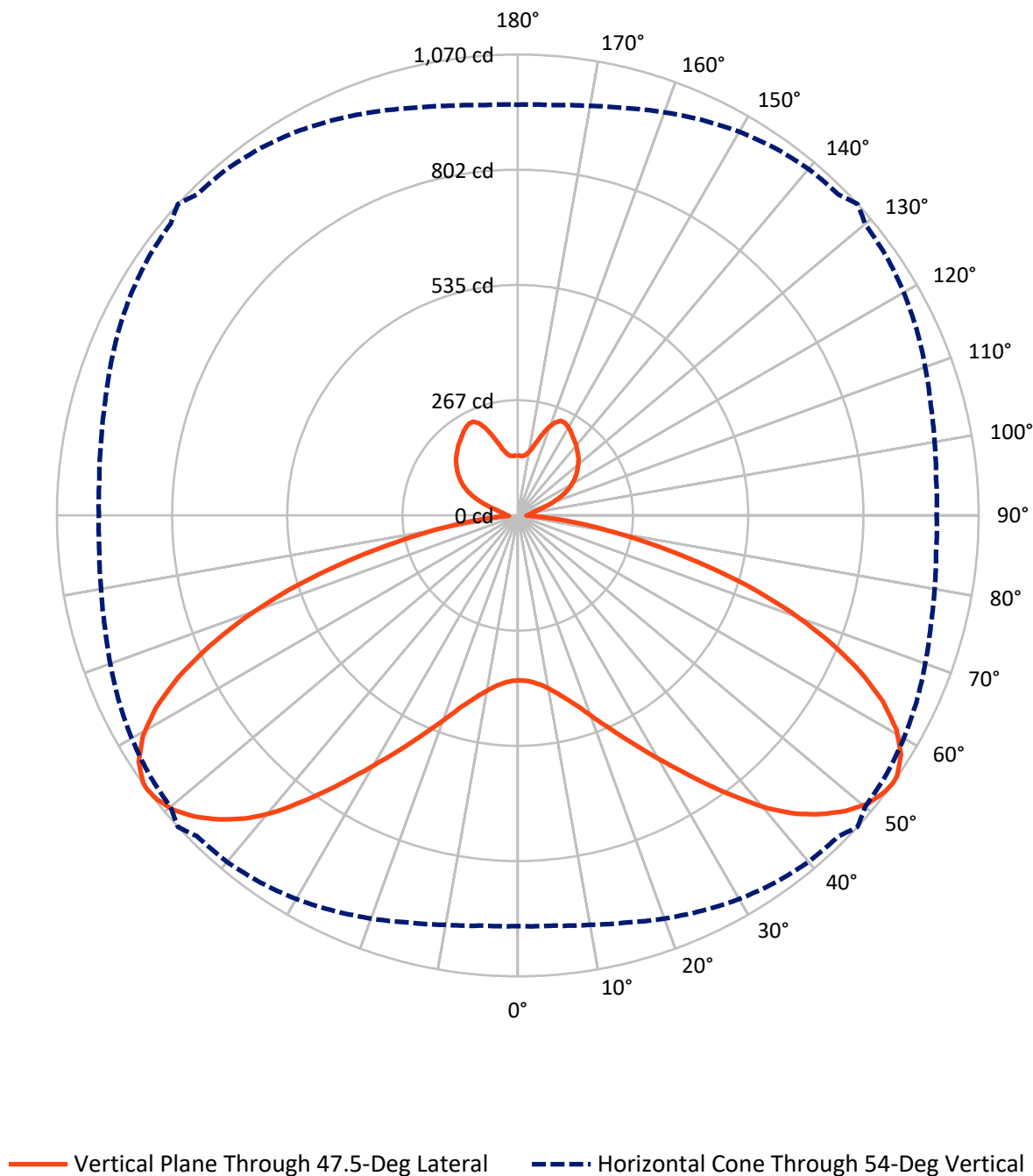


Based on 10 foot mounting height. Maximum calculated value = 4.3 fc
 Type V - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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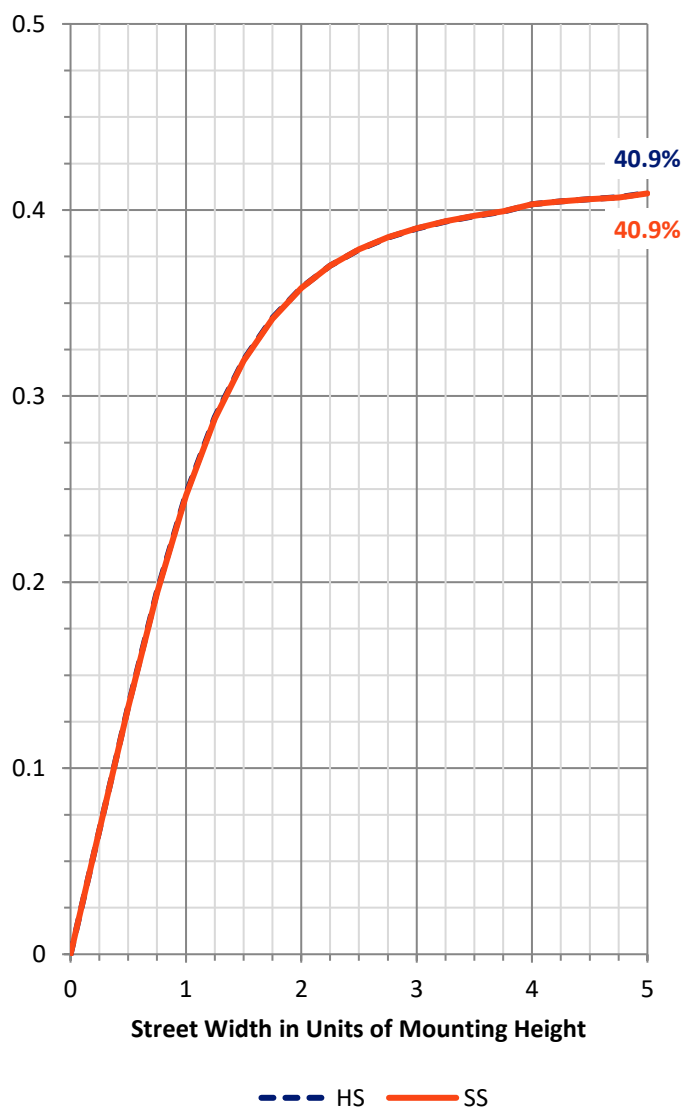
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1928.5	412.0	2340.5
	% Fixture	41.2	8.8	50.0
Street Side	Lumens	1928.5	412.0	2340.5
	% Fixture	41.2	8.8	50.0
Total	Lumens	3857.0	824.0	4681.0
	% Fixture	82.4	17.6	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.8	0.8
10°-20°	128.0	2.7
20°-30°	263.6	5.6
30°-40°	471.4	10.1
40°-50°	723.3	15.5
50°-60°	891.7	19.1
60°-70°	806.8	17.2
70°-80°	444.2	9.5
80°-90°	90.3	1.9
90°-100°	38.3	0.8
100°-110°	59.4	1.3
110°-120°	119.3	2.5
120°-130°	148.7	3.2
130°-140°	153.2	3.3
140°-150°	136.0	2.9
150°-160°	103.7	2.2
160°-170°	51.8	1.1
170°-180°	13.6	0.3
0°-90°	3857.0	82.4
0°-180°	4681.0	100.0

Coefficient of Utilization



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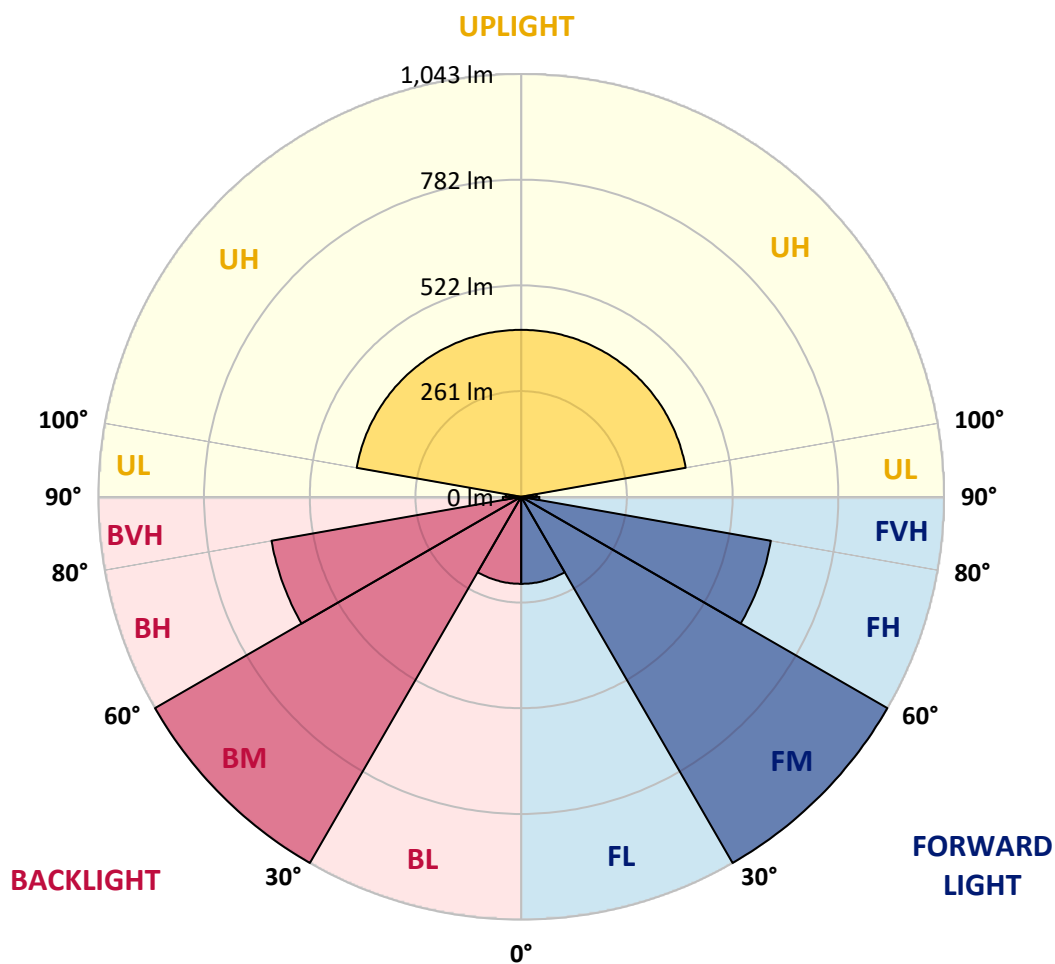
CATALOG NUMBER: TT-C2-LED-E1-WQ-SG-LWR-LW-UPL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	214.7	4.6			
FM	(30°-60°)	1043.2	22.3			
FH	(60°-80°)	625.5	13.4			G0/660
FVH	(80°-90°)	45.2	1.0			G1/100
BL	(0°-30°)	214.7	4.6	B1/500		
BM	(30°-60°)	1043.2	22.3	B2/2500		
BH	(60°-80°)	625.5	13.4	B2/1000		G0/660
BVH	(80°-90°)	45.2	1.0			G1/100
UL	(90°-100°)	38.3	0.8		U2/50	
UH	(100°-180°)	412.0	8.8		U3/500	

BUG Rating: B2-U4-G1

Type V Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	47.5°
0°	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5
2.5°	384.2	384.2	384.2	384.2	384.2	384.2	384.2	384.2	384.2	384.2	384.2
5°	389.2	389.2	389.2	390.0	389.2	389.2	389.2	389.2	389.2	389.2	389.2
7.5°	397.5	397.5	397.5	397.5	397.5	397.5	396.7	396.7	397.5	396.7	397.5
10°	409.2	408.3	408.3	409.2	409.2	408.3	409.2	409.2	409.2	409.2	410.0
12.5°	424.1	424.1	425.0	425.0	425.0	425.8	425.8	425.0	425.8	425.8	425.8
15°	444.1	444.1	444.1	444.1	444.9	445.7	444.9	444.9	444.1	444.1	445.7
17.5°	467.4	467.4	467.4	467.4	469.0	469.0	468.2	469.0	469.9	469.9	469.0
20°	495.6	494.8	494.0	494.8	496.5	496.5	497.3	498.1	498.1	498.1	499.8
22.5°	525.6	524.8	526.4	527.2	528.1	528.9	528.9	529.7	531.4	530.6	533.1
25°	558.8	558.0	558.8	560.5	563.8	563.8	564.7	566.3	566.3	565.5	571.3
27.5°	596.3	596.3	597.1	600.4	601.3	602.1	604.6	606.3	608.7	608.7	613.7
30°	637.0	636.2	637.9	641.2	643.7	646.2	649.5	653.7	654.5	655.3	660.3
32.5°	678.6	678.6	680.3	686.1	690.2	694.4	699.4	703.6	705.2	705.2	712.7
35°	722.7	723.5	727.7	731.8	740.1	745.1	750.1	755.9	759.3	760.9	770.9
37.5°	769.2	771.7	775.1	780.9	789.2	797.5	805.0	814.2	819.1	820.8	831.6
40°	813.3	816.7	821.6	830.0	838.3	849.9	859.1	868.2	874.0	877.4	894.0
42.5°	856.6	858.2	864.1	873.2	884.0	894.8	907.3	917.3	923.1	928.1	946.4
45°	890.7	892.3	899.8	910.6	923.1	936.4	948.9	960.5	966.3	970.5	988.8
47.5°	918.9	922.3	930.6	941.4	953.9	969.7	983.8	995.4	1002.9	1005.4	1024.6
50°	939.7	944.7	952.2	964.7	979.6	995.4	1010.4	1022.9	1031.2	1034.5	1052.0
52.5°	951.4	955.5	963.8	976.3	993.8	1009.6	1025.4	1037.9	1047.0	1050.3	1066.1
54°	953.0	955.5	964.7	978.0	995.4	1012.1	1027.9	1040.4	1049.5	1052.8	1069.5
55°	951.4	953.0	963.0	975.5	993.8	1010.4	1026.2	1038.7	1048.7	1052.0	1067.8
57.5°	934.7	937.2	945.6	958.9	975.5	994.6	1009.6	1022.1	1032.0	1033.7	1048.7
60°	900.6	904.0	911.5	925.6	942.2	958.9	973.8	984.6	993.8	998.8	1009.6
62.5°	851.6	853.2	860.7	873.2	888.2	905.6	917.3	928.1	936.4	941.4	950.5
65°	781.7	789.2	795.0	805.0	816.7	830.8	845.8	854.1	858.2	866.5	873.2
67.5°	703.6	708.5	714.4	723.5	731.0	740.1	754.3	761.8	766.8	772.6	778.4
70°	616.2	614.6	621.2	626.2	634.5	640.3	649.5	653.7	659.5	662.8	672.8
72.5°	512.3	514.8	520.6	526.4	528.9	530.6	538.1	540.6	545.5	543.9	556.4
75°	418.3	414.1	415.8	416.6	418.3	416.6	421.6	424.1	426.6	424.1	430.8
77.5°	316.0	311.0	312.7	311.9	311.9	310.2	309.4	309.4	310.2	308.5	312.7
80°	217.9	215.4	216.2	217.9	213.7	214.6	209.6	209.6	209.6	209.6	211.2
82.5°	134.7	131.4	130.6	131.4	131.4	128.9	129.7	126.4	125.6	124.7	132.2
85°	65.7	64.0	65.7	64.0	63.2	63.2	61.5	62.4	60.7	59.9	64.9
87.5°	17.5	16.6	16.6	16.6	15.8	16.6	16.6	16.6	16.6	17.5	20.0
90°	36.0	36.0	36.0	36.0	35.0	34.0	31.0	29.0	27.0	26.0	26.0
92.5°	40.0	39.0	39.0	38.0	36.0	34.0	32.0	29.0	27.0	27.0	27.0
95°	44.0	43.0	42.0	41.0	38.0	36.0	34.0	32.0	31.0	30.0	30.0
97.5°	42.0	42.0	41.0	40.0	38.0	37.0	36.0	35.0	34.0	33.0	32.5
100°	45.0	45.0	45.0	44.0	42.0	40.0	39.0	38.0	36.0	36.0	35.5
102.5°	51.0	51.0	50.0	49.0	47.0	46.0	45.0	44.0	42.0	42.0	42.0
105°	60.0	60.0	59.0	57.0	55.0	54.0	53.0	53.0	51.0	52.0	52.0
107.5°	72.0	72.0	72.0	70.0	68.0	67.0	66.0	66.0	66.0	68.0	68.0

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CATALOG NUMBER: TT-C2-LED-E1-WQ-SG-LWR-LW-UPL

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	47.5°
110°	86.0	86.0	87.0	89.0	86.0	85.0	85.0	86.0	86.0	87.0	86.5
112.5°	101.0	102.0	104.0	108.0	106.0	107.0	107.0	110.0	108.0	107.0	105.0
115°	121.0	122.0	123.0	128.0	126.0	128.0	127.0	129.0	126.0	124.0	122.0
117.5°	140.0	141.0	141.0	144.0	141.0	141.0	140.0	141.0	138.0	136.0	135.5
120°	152.0	153.0	154.0	155.0	151.0	149.0	147.0	149.0	147.0	147.0	147.5
122.5°	161.0	162.0	163.0	164.0	159.0	154.0	153.0	155.0	156.0	158.0	158.0
125°	169.0	169.0	170.0	172.0	168.0	163.0	160.0	165.0	166.0	168.0	167.5
127.5°	177.0	177.0	179.0	181.0	177.0	171.0	170.0	176.0	177.0	178.0	176.5
130°	187.0	188.0	190.0	191.0	185.0	179.0	179.0	186.0	187.0	186.0	184.5
132.5°	198.0	199.0	200.0	201.0	193.0	186.0	187.0	193.0	195.0	195.0	193.0
135°	210.0	210.0	211.0	209.0	199.0	192.0	193.0	199.0	202.0	201.0	199.0
137.5°	221.0	219.0	217.0	213.0	203.0	197.0	198.0	205.0	207.0	208.0	205.5
140°	229.0	226.0	222.0	216.0	205.0	200.0	201.0	207.0	210.0	213.0	212.5
142.5°	235.0	231.0	225.0	218.0	206.0	201.0	202.0	208.0	212.0	218.0	218.0
145°	235.0	230.0	225.0	218.0	207.0	202.0	204.0	211.0	215.0	223.0	224.0
147.5°	230.0	227.0	223.0	219.0	210.0	207.0	209.0	216.0	220.0	229.0	231.0
150°	224.0	221.0	219.0	220.0	215.0	214.0	216.0	222.0	227.0	235.0	237.0
152.5°	216.0	214.0	216.0	221.0	220.0	220.0	224.0	230.0	234.0	241.0	241.0
155°	208.0	207.0	211.0	219.0	222.0	224.0	229.0	237.0	239.0	243.0	241.0
157.5°	203.0	203.0	207.0	216.0	220.0	224.0	229.0	234.0	232.0	235.0	232.5
160°	199.0	198.0	203.0	210.0	212.0	213.0	216.0	219.0	216.0	219.0	217.5
162.5°	185.0	184.0	188.0	193.0	194.0	193.0	196.0	198.0	195.0	198.0	197.0
165°	169.0	167.0	169.0	173.0	173.0	173.0	175.0	176.0	174.0	177.0	176.0
167.5°	154.0	152.0	153.0	156.0	156.0	155.0	157.0	159.0	157.0	159.0	158.5
170°	142.0	141.0	142.0	145.0	144.0	144.0	146.0	147.0	146.0	147.0	147.0
172.5°	137.0	135.0	136.0	139.0	139.0	138.0	140.0	141.0	140.0	141.0	140.5
175°	136.0	134.0	135.0	137.0	137.0	137.0	138.0	139.0	138.0	139.0	138.5
177.5°	137.0	136.0	136.0	139.0	138.0	138.0	139.0	140.0	139.0	139.0	138.5
180°	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0

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CATALOG NUMBER: TT-C2-LED-E1-WQ-SG-LWR-LW-UPL

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°
0°	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5	382.5
2.5°	384.2	384.2	384.2	384.2	384.2	384.2	384.2	384.2	383.4
5°	389.2	389.2	389.2	389.2	389.2	389.2	389.2	389.2	389.2
7.5°	397.5	397.5	396.7	396.7	396.7	396.7	396.7	396.7	396.7
10°	409.2	410.0	408.3	408.3	409.2	408.3	408.3	407.5	407.5
12.5°	425.8	425.0	425.8	425.8	425.0	424.1	423.3	422.5	423.3
15°	444.9	444.1	444.1	444.1	443.3	443.3	442.4	443.3	442.4
17.5°	468.2	468.2	469.0	466.5	467.4	465.7	465.7	465.7	464.9
20°	498.1	497.3	496.5	494.0	494.8	493.2	492.3	491.5	490.7
22.5°	530.6	528.9	528.1	525.6	526.4	524.8	522.3	520.6	520.6
25°	566.3	564.7	563.0	562.2	561.3	558.0	556.4	553.9	555.5
27.5°	608.7	605.4	602.9	599.6	600.4	596.3	594.6	592.9	592.9
30°	654.5	652.0	647.8	645.3	644.5	640.3	637.0	635.4	634.5
32.5°	704.4	702.7	700.2	696.1	694.4	687.7	685.3	682.8	681.9
35°	763.4	759.3	756.8	751.0	745.1	741.0	735.2	733.5	731.8
37.5°	818.3	818.3	814.2	807.5	799.2	793.4	788.4	785.0	782.6
40°	876.5	874.9	868.2	862.4	854.1	845.8	836.6	833.3	831.6
42.5°	928.1	924.8	918.1	910.6	902.3	892.3	882.3	877.4	876.5
45°	971.3	967.2	960.5	950.5	939.7	929.8	920.6	915.6	913.1
47.5°	1006.3	1001.3	993.0	983.8	971.3	959.7	950.5	945.6	942.2
50°	1032.0	1027.9	1018.7	1007.1	994.6	981.3	972.2	966.3	963.8
52.5°	1048.7	1042.9	1032.9	1020.4	1006.3	993.0	982.1	975.5	973.0
54°	1052.0	1045.3	1034.5	1021.2	1006.3	992.1	982.1	974.7	972.2
55°	1050.3	1043.7	1032.0	1019.6	1003.8	989.6	978.8	971.3	968.8
57.5°	1032.9	1025.4	1014.6	1001.3	984.6	970.5	960.5	952.2	949.7
60°	995.4	988.8	976.3	964.7	948.0	933.9	923.1	914.8	912.3
62.5°	938.1	932.2	921.4	909.8	892.3	879.9	869.0	864.1	857.4
65°	861.6	857.4	846.6	832.5	820.0	807.5	796.7	793.4	789.2
67.5°	770.1	764.3	760.1	746.0	736.0	724.3	713.5	706.9	705.2
70°	662.0	659.5	655.3	642.0	636.2	626.2	618.7	612.9	611.2
72.5°	545.5	543.0	542.2	535.6	528.1	518.9	515.6	510.6	509.8
75°	424.1	422.5	424.1	419.1	416.6	414.1	412.5	412.5	410.0
77.5°	306.9	309.4	310.2	310.2	311.9	311.9	313.5	311.0	308.5
80°	208.7	211.2	210.4	212.1	211.2	217.1	212.9	216.2	212.9
82.5°	125.6	128.9	128.9	128.9	132.2	131.4	131.4	133.1	132.2
85°	61.5	62.4	61.5	60.7	64.9	64.0	64.0	63.2	64.0
87.5°	18.3	16.6	17.5	15.8	17.5	15.0	16.6	16.6	17.5
90°	26.0	28.0	30.0	32.0	33.0	34.0	34.0	34.0	34.0
92.5°	27.0	28.0	30.0	32.0	33.0	35.0	36.0	36.0	36.0
95°	30.0	30.0	32.0	34.0	35.0	37.0	38.0	39.0	38.0
97.5°	32.0	33.0	34.0	34.0	35.0	36.0	36.0	36.0	36.0
100°	35.0	36.0	37.0	38.0	38.0	38.0	38.0	37.0	37.0
102.5°	42.0	43.0	44.0	44.0	42.0	42.0	41.0	41.0	41.0
105°	52.0	54.0	54.0	53.0	51.0	49.0	48.0	48.0	49.0
107.5°	68.0	68.0	68.0	66.0	63.0	60.0	59.0	59.0	60.0

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CATALOG NUMBER: TT-C2-LED-E1-WQ-SG-LWR-LW-UPL

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°
110°	86.0	84.0	83.0	84.0	81.0	78.0	76.0	74.0	75.0
112.5°	103.0	102.0	102.0	105.0	103.0	100.0	98.0	95.0	94.0
115°	120.0	121.0	123.0	125.0	124.0	123.0	121.0	116.0	113.0
117.5°	135.0	138.0	140.0	141.0	139.0	139.0	139.0	133.0	129.0
120°	148.0	150.0	151.0	153.0	148.0	148.0	148.0	145.0	142.0
122.5°	158.0	159.0	160.0	162.0	156.0	155.0	156.0	153.0	150.0
125°	167.0	167.0	167.0	168.0	164.0	163.0	164.0	160.0	158.0
127.5°	175.0	176.0	175.0	175.0	173.0	173.0	173.0	166.0	163.0
130°	183.0	183.0	182.0	183.0	181.0	184.0	181.0	171.0	169.0
132.5°	191.0	190.0	189.0	192.0	189.0	192.0	190.0	179.0	176.0
135°	197.0	196.0	197.0	201.0	199.0	199.0	195.0	185.0	184.0
137.5°	203.0	203.0	205.0	210.0	207.0	204.0	198.0	191.0	190.0
140°	212.0	212.0	214.0	217.0	214.0	209.0	202.0	195.0	195.0
142.5°	218.0	220.0	222.0	223.0	217.0	211.0	204.0	198.0	198.0
145°	225.0	230.0	230.0	227.0	217.0	211.0	205.0	201.0	202.0
147.5°	233.0	239.0	236.0	229.0	218.0	212.0	207.0	204.0	206.0
150°	239.0	242.0	240.0	232.0	220.0	214.0	211.0	210.0	211.0
152.5°	241.0	242.0	241.0	235.0	223.0	219.0	217.0	215.0	216.0
155°	239.0	238.0	237.0	234.0	227.0	224.0	223.0	220.0	219.0
157.5°	230.0	228.0	229.0	229.0	226.0	226.0	225.0	222.0	219.0
160°	216.0	215.0	217.0	219.0	219.0	221.0	222.0	218.0	215.0
162.5°	196.0	196.0	199.0	200.0	201.0	204.0	208.0	207.0	207.0
165°	175.0	176.0	179.0	181.0	181.0	185.0	189.0	190.0	192.0
167.5°	158.0	160.0	163.0	165.0	164.0	168.0	171.0	172.0	174.0
170°	147.0	148.0	150.0	152.0	152.0	155.0	158.0	159.0	160.0
172.5°	140.0	141.0	144.0	145.0	144.0	146.0	149.0	149.0	151.0
175°	138.0	138.0	140.0	141.0	140.0	141.0	143.0	143.0	144.0
177.5°	138.0	138.0	140.0	140.0	138.0	140.0	141.0	141.0	141.0
180°	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0	140.0

(END OF REPORT)